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AUTHOR Henderson, Ronald W.; Swanson, Rosemary
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ABSTRACT

American Indian paraprofessionals were trained to teach parents to use social learning principles to develop question-asking skills in their first-grade children. Subjects were assigned to three treatment groups of 10 subjects each for a time lag control form of multiple baseline design. Two hypotheses were tested: (1) instruction by parents would result in increases in question-asking over the duration of the study, and (2) following each intervention period, treated groups would perform better than untreated groups. Both hypotheses were confirmed. "A priori" orthogonal t-test comparisons were all significant beyond .01. Variables relating to individual differences in response to instruction were also studied. (Author/CS)

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ARIZONA CENTER
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT
College of Education
University of Arizona
Tucson, Arizona 85721

F. Robert Paulsen, Dean
College of Education

Marsden B. Stokes, Director
Arizona Center
For Educational Research and Development

Ronald W. Henderson, Coordinator
Office of Child Research

PARENT TRAINING AND UTILIZATION OF KNOWLEDGE FROM RESEARCH ON COGNITIVE SOCIALIZATION

By: Ronald W. Henderson and
Rosemary Swanson

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PARENT TRAINING AND UTILIZATION OF KNOWLEDGE FROM RESEARCH ON COGNITIVE SOCIALIZATION

Ronald W. Henderson and Rosemary Swanson
University of Arizona

While knowledge from basic research on psychological processes is growing at an ever increasing rate, educators and social engineers are still faced with a paucity of verified information concerning how principles derived from laboratory experiments can be applied in natural settings. Recent extensions of social learning theory provide a case in point. Early studies of observational learning centered on the effects of models on social behaviors such as aggression and dependency. Recently, however, a number of studies have demonstrated the effects of modeling procedures on cognitive skills (Rosenthal and Zimmerman, 1972; Bandura and Harris, 1967; Zimmerman and Dialessi, in press). Zimmerman and Rosenthal's (in press) review of these investigations illustrates that procedures based on social learning principles have been effective in teaching creative responses, problem solving strategies, abstract principles and concepts, generalized language rules, and even Piagetian conservation responses. These studies appear to hold important implications for instruction, but they have been carried out under laboratory conditions or in clinical settings, and as yet there is little information concerning the effectiveness of social learning principles when applied in settings in which close control over procedural conditions cannot be maintained. Moreover, when psychological principles are used in planning intervention efforts, the scope of intervention is often

so broad that if goals are achieved, it is impossible to attribute specific outcomes to particular activities or procedures.

The purpose of this research was to investigate the practical efficacy of a specific set of principles derived from basic social learning research on a single specific intellectual skill (question-asking).

Question-asking is one intellectual skill which has been taught effectively with modeling procedures based on social learning principles. Rosenthal, Zimmerman and Durning (1970) demonstrated that changes in children's interrogative classes could be induced through the systematic use of modeling procedures in an experimental setting. Social learning principles have also been used to teach disadvantaged Mexican-American children in an experimental prototype of a small-group instructional setting (Zimmerman and Pike, 1972), and Mexican-American parents have been taught to use the procedures to teach question-asking skills to their children (Henderson and Garcia, 1973).

These three studies of observational learning on question-asking skills fall along a continuum in terms of the amount of control of instructional procedures exercised by the researchers. The research by Rosenthal and his associates involved laboratory control, whereas in the Henderson and Garcia study, the modeling, cueing, and reinforcement strategies used for instruction were employed in the home by parents rather than experimenters. That investigation demonstrated that a group of low-income mothers could learn to use the procedures effectively, but the parents were instructed by experienced and highly trained graduate students in settings in which reasonably high standards of quality control could be maintained. Therefore, while the socialization practices have been demonstrated to be

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effective in settings where at least reasonable control of the independent variables was possible, it has not been previously demonstrated that comparable results can be obtained in a more natural field setting. The present research presented a challenge in that it required a multiple step training procedure. University based personnel first trained an undergraduate American Indian student who subsequently transmitted the necessary skills to indigenous paraprofessionals in reservation communities. The paraprofessionals in turn trained parents to use social learning principles to teach causal question-asking skills to their children.

Obviously, optimal monitoring could not be maintained under such conditions, but such a situation is more typical than exceptional in areas where the need for training and services is critical. Favorable results under these circumstances would provide evidence on both the power of the principles and on the feasibility of developing an effective system of psychological services for parents, using paraprofessional members of reservation communities as parent trainers.

The study was conducted as a service project at the request of the superintendent of a public school district serving a large area of the Papago Indian Reservation in Southern Arizona. The school administration was interested in the possibility of facilitating the development of question-asking skills in Papago children through parent intervention. The District Title I Advisory Committee and the Board of Education sanctioned this goal. A majority of the membership of both of these representative bodies were Papago.

An informal needs assessment indicated that Papago children ask few questions, at least in school and other interactions with Anglo adults. The ethnographic literature suggests that this has been a traditional

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pattern in the culture, and that Papagos do not customarily acquire information by asking direct questions (Joseph, Spicer, and Chesky, 1949). Nevertheless, the Papago representative groups which approved the study, and individual Papago families which participated, seemed to feel that question-asking was an important information-seeking skill, particularly in situations requiring interaction with Anglos. There is also general agreement among educators and psychologists that question-asking is an important skill which can be used in teaching oneself (Henderson and Garcia, 1973), and that it is essential to problem solving and scientific thought (Blank and Covington, 1965; Suchman, 1964; Cazden, 1970).

This research focused on changes in the type of questions asked by children, as well as in simple increases in number or rate. This focus was based on the assumption that questions of varied types may play differential roles in intellectual functioning and problem solving. The developmental literature indicates that questions calling for names of objects, for example, develop earlier in children's linguistic repertoires than do why and how questions. Piaget (1926) found a very low incidence of questions calling for explanations in his descriptive study of the language of two six year old boys, and Cazden states that such questions become the growing point of the child's knowledge (Cazden, 1970). Therefore, since causal questions, those which generally ask why, how come, or what could happen if . . ., appear to be of critical importance to the kind of intellectual growth which is functional in a scientifically oriented, technologically based, and bureaucratic society, it seemed reasonable to focus on this category of questions in this investigation.

The study was designed to test two hypotheses. The first hypothesis was that the combined groups would show a significant increase in causal

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question-asking over the duration of the study (Trial I to Trial I"). The second hypothesis was that following each intervention, treated groups would perform significantly better than untreated groups.

Method

Subjects

Thirty subjects were randomly selected from the total population of first grade Papago native American children in the elementary schools in the two communities involved in the study. Papago paraprofessionals visited the homes of each family in the sample and explained the goals, and rationale of the program and the time and effort that would be required of participating families. Whenever a family from the sample was uninterested or unable to expend the necessary time, a replacement was selected from a randomly selected list of alternative subjects.

Procedures

Data: A recurring problem in conducting field research is the difficulty in obtaining equivalent control and experimental groups for a traditional quasi-experimental design. Moreover, a conventional quasi-experimental design was judged inappropriate for this study because, in a sense, the participating families were volunteers. Given these circumstances, a group time lag control form of multiple baseline design was used as a means of assessing change. With such a design, treatment groups can be subjected to treatment at varying time intervals to eliminate possible confounding effects of maturation and history. It is a design which provides for a control group, which eventually receives treatment, and it provides an independent replication of the effect (Glass and Gottman, 1972). These features make it a very practical design for field research and service projects. In the present study, subjects were assigned to one of three treatment groups.

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and the point of intervention for the three sub-samples was staggered, with training occurring at a different point in time for each group. The second and third treatment groups, therefore, functioned as replications of the original experiment.

Every child in the project was tested at every data point, making it possible to examine the effects of multiple testing prior to intervention as well as retention or maintenance of effects over time. At each of the four data points (Trials) children were individually tested under three different conditions: baseline, instruction, and generalization. The baseline measure provided data on each child's entry behavior for each of the four trails. The instruction data provided a measure of the child's response to instruction in causal question-asking provided through modeling by the experimenter. The generalization measure showed the degree to which the child could generalize his causal question-asking skill to a set of unfamiliar stimuli.

Testing was carried out by a female Anglo experimenter. Coding of the child's responses was done by an observer who was positioned as unobtrusively as possible in the testing van. Neither the experimenter nor the coder were aware of the treatment group assignment of the subjects. Moreover, some children not involved in the experiment were included in the testing to further guard against the effects of possible experimenter bias.

The stimulus materials and procedures employed in assessing question-asking were based on those used by Rosenthal et. al. (1970). The task was used to produce baseline, instruction, and generalization data for each of the four trials. The instrument consisted of two sets of twelve stimulus pictures of common objects. In the baseline condition the examiner explained: "Now we are going to play a game. Your part in the game is

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to ask questions. When we're finished playing the game, you'll get a surprise, okay?" During the baseline condition the subject was instructed to ask a question about each card as it was presented. If a child asked a question his response was coded as a causal or non-causal question. If the child made a declarative statement he was prompted to ask a question. If no response was made during the first 15 seconds following the presentation of a stimulus card, a prompt was given. If no response was given during the 15 second interval following a prompt the experimenter presented the next card. The reliability of coding was checked periodically by using a second coder and computing intercoder reliability. Average intercoding reliability was 94% agreement.

In the instruction condition, the examiner used the initial set of cards but modeled one question per card for the subject. To initiate this sequence the examiner told the child: "Now its my turn to play the game. I'm going to ask questions. You don't have to answer them, but listen carefully because you will have another turn later." Following the modeling sequence, the child was again presented with the initial set of cards and directed to ask a question about each one.

The generalization condition consisted of presenting the subject with the set of unfamiliar stimulus cards. The child was told that he could now have another turn, but with new pictures.

Following the testing, the child was told that he could have a surprise for playing the game, whereupon he was allowed to help himself to sugar-coated cereal. The cereal was not contingent upon the quality of the child's performance, but was intended to give a positive valence to the experimenter and the testing setting. Data on the child's performance under each of these three conditions were collected during each of the four

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trails. The temporal relationship between trials and interventions for each of the three groups is depicted in Table 1.

Insert Table 1 about here

At the conclusion of the study additional data were gathered as a means of identifying variables which might be related to individual differences in response to training. First, to provide an estimate of the level of acculturation of families participating in the program, the paraprofessionals rated the degree of acculturation of each family on a three point scale. Those families were rated as most traditional who had acquired the fewest observable traits of the dominant culture (e.g., material possessions such as cars, modern homes), who still spoke primarily the Papago language in their homes, and who acquired their livelihood in the more traditional manner (e.g., ranching, farming). The middle category included families who had acquired some of the material possessions and styles of the dominant culture, whereas in the third category were placed those families whose life-style, language, and possessions closely resembled that of Anglos with the exception of reservation residence.

Second, the most recent Metropolitan Achievement Test scores were collected from school files on all participating children. The standard scores made available to the project staff included Word Analysis, Total Reading, and Total Mathematics.

The final type of information collected was responses by participating mothers to the Henderson Environmental Learning Process Scale (HELPS) (Henderson, Bergan, and Hurt, 1972). The HELPS is an interview instrument of 55 items comprising 5 scales designed to elicit information regarding

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TABLE 1

TEMPORAL RELATIONSHIPS AMONG GROUPS, TRIALS, AND INTERVENTIONS

	Trial I	Training	Trial II	Training	Trial III	Training	Trial IV
Group I	Pre-test	Intervention	Post-test	No intervention	Maintenance of effects test	No intervention	Second maintenance of effects test
Group II	Pre-test	No intervention	Second pre-test	Intervention	Post-test	No intervention	Maintenance of effects test
Group III	Pre-test	No intervention	Second pre-test	No intervention	Third pre-test	Intervention	Post-test

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the environmental process variables of achievement aspiration, environmental stimulation, parental guidance, models, and reinforcement practices that have been hypothesized to contribute to educational performance. Previous research has shown relationships between this environmental measure and school achievement although with groups differing in ethnicity from the sample in this study (Henderson, Bergan, and Hurt, 1972). The purpose was to examine any possible relationships between environmental forces in the home and degree of success encountered in the present training project. The paraprofessionals were trained in the administration of the instrument and were able to collect these data on 27 of the 30 families involved in the program.

As an exploratory post-hoc test, a factor analysis was performed on all of the data. While factor analysis with a sample of this size (n=30) is not generally recommended, the procedure was viewed as an exploratory measure that might suggest further hypotheses.

Training: Two Papago women were selected and trained to serve as paraprofessional parent trainers. This training took approximately three months, and was conducted by a graduate student in school psychology and an undergraduate education student who was an American Indian and able to gain the necessary rapport with the trainees. In general, the paraprofessionals had to learn to:

1. role-play mother-child interaction sequence employing stimulus materials in the same style as modeled by the trainers.
2. differentiate and count questions from non-questions with 100% accuracy during modeled mother-child interaction sequence.
3. use contingent verbal praise to reinforce questions with 100% accuracy while modeling interaction sequence.

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4. distinguish causal from non-causal questions, praising only causal ones with 100% accuracy while modeling sequence.
5. model causal questions at the rate of one question per stimulus page while modeling interaction sequence.
6. combine counting, praising, and modeling of causal questions with 100% accuracy for all skills in a modeling sequence.
7. explain following concepts in English and Papago:
   a. question-asking
   b. causal versus non-causal questions
   c. use of verbal reinforcement
   d. use of modeling
8. communicate goals of program to participants and others in the community.

The training procedures were accomplished through direct demonstration, supplemented by verbal description and role-playing. Direct instruction was used to communicate goals, concepts, definitions, and explain the rationale behind procedures. All other skills were taught through the role playing of the desired mother-child interaction patterns.

Once the paraprofessionals had demonstrated mastery of the specified skills, they were presented with written lessons to guide their training sessions with the parent groups. They then role-played these lessons prior to meetings with the parents so that trainers could be assured of their mastery of the training procedures.

Following the completion of their training, the paraprofessionals began their training sessions with the first group of parents. Formal sessions were held on a semi-weekly basis, but for those parents who either did not attend or had failed to satisfy criteria for mastery of a specific skill,

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training was supplemented with home visits made by the paraprofessionals. Between formal session, participating parents performed two 10 minute sessions with their children in which they practiced the previously learned skill. During these child-sessions each mother recorded a frequency count on the number of questions asked by her child. These counts were later graphed by the paraprofessions to give the parent a visual record of the child's progress.

Each lesson began with a review when applicable. The paraprofessionals then introduced the skill to be practiced in the lesson and discussed that skill with the parents. The paraprofessionals then modeled a mother-child interaction sequence employing the selected skill. Finally, the group broke into pairs and role-played the sequence which they had seen modeled by the paraprofessionals. The trainers monitored the role-playing, and the process continued until the parents reached the pre-specified level of mastery. The pictorial children's books used as stimulus materials in the parent lessons were checked out by mothers for use with their children at home.

Results

Figure 1 presents the mean number of causal questions asked by each group for each trial and condition. If the study is regarded as an initial experiment involving Group I, and two replications involving Group II and III, serveral general trends can be noted. Causal question-asking on the part of all groups increased from baseline to instruction conditions, indicating positive effects from the experimenter's modeling of causal questions. This effect appeared to be most pronounced before the parents were trained and in turn taught causal question-asking to their children. The performance of each group increased to a level above that produced by the

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experimenter's modeling instruction following parent intervention. Furthermore, performance on the generalization task showed a tendency to hold up better after parent intervention than before. The trend of Group I to show improved performance on each successive trial may be an unanticipated artifact of the design, and will be discussed later.

Insert Figure 1 about here

The generalization scores in the study constitute the most stringent measure of program effects. A priori orthogonal t-test comparisons were performed on these data to test hypotheses relating to program effects. When preplanned t-tests meet the requirements of orthogonality, a prior overall test of significant is unnecessary (Kirk, 1968). The first t-test compared the mean of all groups on generalization scores for Trial I with the generalization score mean for Trial IV. The second t-test compared the Trial II generalization mean of the treated group (Group I) with the combined mean of the untreated groups. The third t-test compared the Trial II combined generalization mean of treated Groups I and II with the generalization mean attained by untreated Group III. The obtained t's for the first test (t=3.1753) was significant at the .01 level [$t_{.01}(df108)=2.38$], thus supporting the first hypothesis. The second (t=3.2102) and third (t=10.0494) tests were also significant at the .01 level, lending support to the second hypothesis.

The effects of the experiment are strong and in the predicted direction. Changes of such magnitude provide convincing evidence regarding the strength of the principles employed in the training, and analysis of the effects of the manipulation of social stimulus conditions customarily end at this

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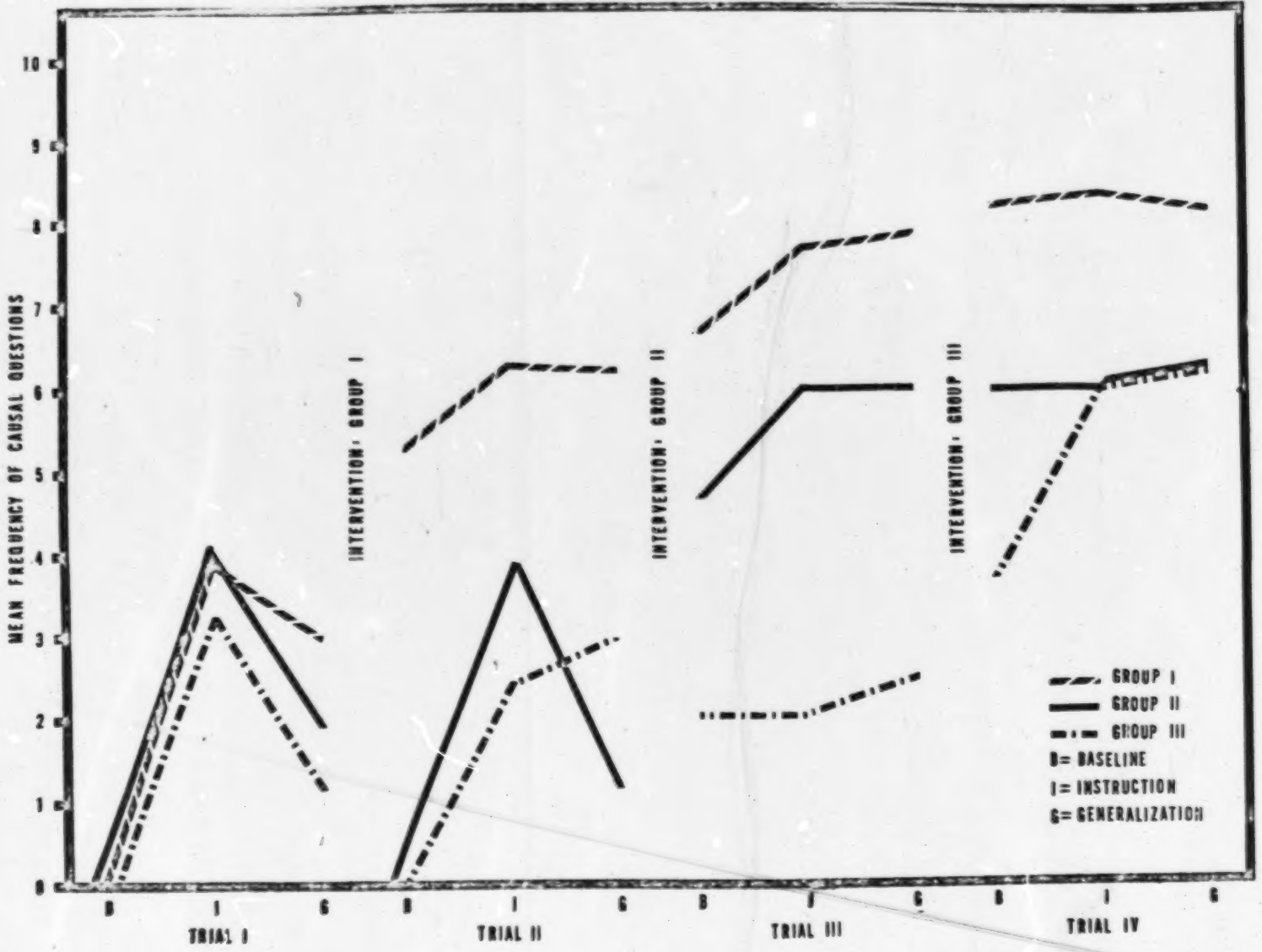

FIGURE 1

CAUSAL QUESTION-ASKING MEANS BY TRIAL AND CONDITION FOR THREE EXPERIMENTAL GROUPS

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point. It should be noted, however that while the independent variables in an experiment such as this may exert strong effects, they may still account for only a limited portion of the total variance in the target behavior (Mischel, 1968). An inspection of individual test protocols supported Mischel's (1968) suggestion that even with such strong and predicted changes there were still striking differences among children. Only 57% of the children demonstrated mastery by the end of the study, even though all mothers had been trained to criterion on skills to be employed with their children. This observation raised a question regarding why these differences in children's performance occurred.

In an effort to more clearly examine this phenomenon, a phi (ϕ) coefficient was calculated on the naturally dichotomous scores received during the first instruction condition and the final generalization scores. The initial responses to instructional modeling were regarded as a possible index of the child's amenability to modeling influences. Phi calculated on those data produced a correlation coefficient of .53 which is significant at α level .01. It should be noted that the interpretive meaning of ϕ is not precisely the same as that associated with the usual r_{xy}, as ϕ can only attain a value of +1 when the distributions are identical (Glass and Stanley, 1970). Since in this case this condition was not met, the obtained ϕ coefficient could be viewed as an underestimation of the relationship between initial amenability to modeling and final performance.

To further examine possible explanations for these noted individual differences, the relationship between question-asking performance and the achievement data were examined, but there did not appear to be any correlation between these variables.

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As a final attempt to identify variables which might be related to individual differences in response to the experiment, a post-hoc correlational analysis was performed on question-asking scores, HELPS scores, achievement data, and acculturation ratings. This analysis revealed that previous school achievement, level of acculturation, and the HELPS measure were all unrelated to the degree to which children profited from the treatment.

Discussion

The results of this experiment demonstrated that the project was successful in teaching Papago first-grade children to ask causal questions. Consistent increases in causal question-asking in response to instruction via modeling by the experimenter were replicated in this research with three separate groups, demonstrating that modeling procedures constitute an effective means of teaching a specific intellectual skill. This finding supports the results of other investigations on the effects of modeling procedures on information seeking skills (Zimmerman and Pike, 1972; Rosenthal, Zimmerman, and Durning, 1970; Henderson and Garcia, 1973)which have been conducted in other kinds of settings and with different social and ethnic groups of children.

Clearly, the most important finding of this investigation was that when parents intervened by practicing, with their own children, socialization skills which they learned in a training program conducted by Papago papaprofessionals, the children's performance on the question-asking tasks increased significantly over performance attributable to direct modeling instruction by the experimenter. This finding is of considerable practical significance. Specifically, the importance of socialization practices such as those used in the study is demonstrated by the fact that children whose parents used the social learning principles which they learned in the

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training program, performed better on the target behavior than did children whose parents had not yet been trained to employ such practices. This finding lends credence to the observation that the differences between the performance of treated and untreated groups, where the treatment is a set of procedures applied by a parent in the home environment, resemble differences which we typically find between children sampled from two populations which differ in social class or ethnicity. Henderson and Garcia (1973) have suggested a parallel between the results of planned parental intervention on a specific skill, and the natural circumstances in which a wider range of behaviors may be supported by parents or others at home. Thus, we may have an experimental demonstration of what might happen in a less planned way in what has been called the "hidden curriculum of the middle class home." In brief, the results of this experiment provide evidence that if a particular skill or set of skills is seen as a desirable objective, then that skill may be learned more effectively if parents learn to provide specific support for it, than if the responsibility for teaching the skill is left solely to the school.

This study therefore provides objective evidence for the efficacy of parental applications of learning-theory based procedures for the intellectual socialization of their children. Furthermore, the study demonstrates the feasibility of training indigeneous paraprofessionals in a relatively isolated setting to conduct effective training for parents to provide a supportive environment for the intellectual socialization of their children. It should be relatively easy to teach parents to generalize the use of the procedures they have now learned and to apply them to the development of other desired skills in their children. The feasibility of doing this, and of training the paraprofessionals to do the training, should be given high priority for future investigation.

One interesting finding relating to the data on question-asking was that the performance of Group I continued to rise after intervention, while such a pattern was not found for Group II, for which maintenance of effects data were also available. In retrospect it seems possible that this continuing increase in the performance of Group I may have been an artifact of the research design. The procedure of offering a treat at the end of a testing session, non-contingent on the quality of the child's performance, is common in research of this type. The intent is to develop a positive valence toward the examiner and the testing setting, without giving feedback on the 'correctness or incorrectness' of the child's responses. Such feedback might well contaminate performance in future data collection efforts. In the present research, the parents of children in Group I began, soon after the first testing session, to work with their children on causal-question-asking. Parent intervention for this group, then, may have provided feedback to these subjects at an early point in time. On the other hand, children in Group II and III returned to the testing van for a second data gathering session before any intervention was begun in the home. Without this intervening feedback, children in Group II and III may have thought that during the preceding testing session they did just what they were supposed to, because they received a "treat" for their good efforts. Therefore, during subsequent testing sessions in the van they persisted in responses similar to those which apparently "paid off" in their earlier sessions. There should be further study of the possibility that the use of reinforcement that is not contingent on the quality of responses may inadvertantly establish a response set.

Another important finding was the fact that some children were much more responsive to the modeling instruction provided by the experimenter,

and to the intervention by their parents, than were other children. Traditionally, the outcomes of experiments similar to this one have been assessed only on the basis of the average performance of groups (vide Bandura, 1965; Rosenthal, Zimmerman, and Durning, 1970). Close inspection of our data revealed, however, that a portion of the children in each treatment group did not respond to the modeling by the experimenter, or to the intervention strategy, at least as performance was measured in this study. The fact that children's responses to the initial modeling by the experimenter showed a significant relationship to final generalization scores indicates that one could predict with better than chance accuracy which children would be most amenable to the intervention. This information on amenability to modeling instruction was obtained within the first five minutes of our interaction with each child. It thus appears that such information on initial amenability to modeling might have diagnostic value in future instructional efforts.

If a child does not respond favorably on an initial modeling task, it might be prudent to explore conditions that would be effective in teaching requisite skills and response modes which are required for a child to profit optiminally from the modeling instruction. For example, explorations might involve task analysis and the use of carefully sequenced, small stepped instruction, to shape in precursor behaviors. This could be done in future work with a series of single subject experiments, in which each child serves as his own control. Efforts of this type would have implications beyond this immediate project. An inspection of data from published research which would be judged highly successful in terms of influences on the average performance of groups (**vide** Bandura and Mischel, 1965; Mischel, 1968), suggest that even in studies conducted with good control under laboratory conditions, children respond differentially to treatment. Therefore, while a

treatment may be very effective for some children in a group, or even for most of them, it is important to learn what individual modfications in the procedures might serve to enhance the learning performance of children who are not amenable to the effects of the standard modeling procedure.

Parenthetically, it should be mentioned that there was some evidence that some children who did not perform well in the testing situation did not respond well to instruction by a parent in the home setting. This evidence was in the form of data kept by parents during their home sessions. We have cause to believe that the records were reasonably accurate, but the information was not sufficiently complete to justify a formal analysis. Nevertheless, a possible discrepancy of this type would have important implications for future work, and should be studied further.

Interesting implications for the education of children such as the boys and girls who participated in this study are also suggested by the correlational analysis which was performed as a post hoc exploration of available data. This analysis was conducted in a serach for hunches concerning why some children responded to the modeling instruction, and others did not. The first finding of interest was that question-asking performance and academic achievement, as measured by the Metropolitan Achievement Test, were unrelated. This might suggest that well planned instruction, targeted on specified intellectual skills, may be effective irrespective of a child's general level of past performance on general measures of achievement in academic subjects. This finding may be interpreted as consistent with the view that these children's backgrounds may be considered as different in some ways from the backgrounds of middle-class Anglo children, but not that the background is deficient. If there are skills which have a value in the culture, or cultures, in which a child must eventually function, and if those skills are not

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being learned routinely in the natural environment, the skills can probably be taught, and our data suggest that the success with which they are acquired may not necessarily be limited or enhanced by general academic achievement.

We suspect that there might be differential patterns of predictors of scholastic success for different groups of people. In past research interpretable environmental factors on the HELPS have been found to predict academic achievement, but in this study neither the original subscales nor the total score of HELPS were significantly related to measures of academic performance. This finding suggests that perhaps past assumptions about environmental conditions that contribute to academic success must be reconsidered. It further suggests that while it would be interesting to identify what factors do contribute to academic achievement in this setting, it might be more profitable for parents, educators, and tribal leaders to decide what skills are most important for their children to acquire, and to design programs which would coordinate home and school efforts to teach those skills.

In this connection it was also noteworthy that acculturation ratings given by the papaprofessionals did not correlate significantly with academic achievement. This finding suggests the possibility that level of acculturation per se is not necessarily associated with academic achievement.

Summary

In summary, the modeling procedures which were used to provide instruction in question-asking in the testing setting were effective in increasing children's rates of causal question-asking in response to a standard set of stimulus cards. Question-asking performance was further improved by the intervention strategy, in which parents applied procedures which

were designed to promote the socialization of the intellectual skill of question-asking in their children. There appeared to be no deterioration in question-asking skills over time. Descriptive data, in the form of acculturation ratings of participant families, measures of learning variables in the children's home environments, and achievement measures consisting of word analysis, reading, and mathematics scores on the Metropolitan Achievement Test, appeared to be unrelated to the degree to which children profited from the experimental procedures. This suggests that specific valued intellectual skills can be taught effectively to these children, irrespective of their level of acculturation or past academic achievement. Moreover, the results of the study give strong support to the proposition that parents can be trained to use socialization practices which might provide a significant increment of performance over what might be expected on the basis of direct instruction outside the home, and the training of parents can be carried out successfully by trained indigeneous paraprofessionals.

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FOOTNOTES

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